Analytical Laboratory

13339 Hagers Ferry Road
Huntersville, NC 28078-7929
McGuire Nuclear Complex - MG03A2
Phone: 980-875-5245 Fax: 980-875-4349

Order Summary Report

Order Number: **J12020079**

Customer Name(s): Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson

Customer Address: 3195 Pine Hall Rd
Mailcode: Belews Steam Station
Belews Creek, NC 28012

Lab Contact: Jason C Perkins Phone: 980-875-5348

Report Authorized By: (Signature) Digitally signed by jay perkins DN: cn=jay perkins, o=Analytical Lab, ou, email=jay.perkins@duke-energy.com, c=US Date: 2012.02.22 15:58:42 -05'00' **Date:** 2/22/2012

Program Comments:

Please contact the Program Manager (Jason C Perkins) with any questions regarding this report.

Data Flags & Calculations:

Any analytical tests or individual analytes within a test flagged with a Qualifier indicate a deviation from the method quality system or quality control requirement. The qualifier description is found at the end of the Certificate of Analysis (sample results) under the qualifiers heading. All results are reported on a dry weight basis unless otherwise noted.

Data Package:

This data package includes analytical results that are applicable only to the samples described in this narrative. An estimation of the uncertainty of measurement for the results in the report is available upon request. This report shall not be reproduced, except in full, without the written consent of the Analytical Laboratory. Please contact the Analytical laboratory with any questions. The order of individual sections within this report is as follows:

Job Summary Report, Sample Identification, Technical Validation of Data Package, Analytical Laboratory Certificate of Analysis, Analytical Laboratory QC Reports, Sub-contracted Laboratory Results, Customer Specific Data Sheets, Reports & Documentation, Customer Database Entries, Test Case Narratives, Chain of Custody (COC)

Certification:

The Analytical Laboratory holds the following State Certifications : North Carolina (DENR) Certificate #248, South Carolina (DHEC) Laboratory ID # 99005. Contact the Analytical Laboratory for definitive information about the certification status of specific methods.

Sample ID's & Descriptions:

Sample ID	Plant/Station	Collection Date and Time	Collected By	Sample Description
2012002683	BELEWS	08-Feb-12 8:10 AM	R. HENDRICKS	FGD Purge Eff
2012002684	BELEWS	08-Feb-12 8:10 AM	R. HENDRICKS	EQ TANK EFF.
2012002685	BELEWS	08-Feb-12 8:15 AM	R. HENDRICKS	BIOREACTOR 1 INF.
2012002686	BELEWS	08-Feb-12 8:20 AM	R. HENDRICKS	BIOREACTOR 2 INF.
2012002687	BELEWS	08-Feb-12 8:25 AM	R. HENDRICKS	BIOREACTOR 2 EFF.
2012002688	BELEWS	08-Feb-12 8:00 AM	R. HENDRICKS	FILTER BLANK
2012002689	BELEWS	08-Feb-12 8:00 AM	R. HENDRICKS	Trip Blank
2012002690	BELEWS	08-Feb-12 1:15 PM	David Morris (Prism)	BIOREACTOR 1 INF.
2012002699	BELEWS	08-Feb-12 1:15 PM	David Morris (Prism)	HG BLANK BIOREACTOR 1 INF.
2012002700	BELEWS	08-Feb-12 1:25 PM	David Morris (Prism)	BIOREACTOR 2 INF.
2012002701	BELEWS	08-Feb-12 1:25 PM	David Morris (Prism)	Hg Blk BioReactor 2 Inf
2012002702	BELEWS	08-Feb-12 1:20 PM	David Morris (Prism)	BIOREACTOR 2 EFF.
2012002703	BELEWS	08-Feb-12 1:20 PM	David Morris (Prism)	Hg Blk BioReactor 2 Eff

13 Total Samples

Technical Validation Review

Checklist:

COC and .pdf report are in agreement with sample totals and analyses (compliance programs and procedures).	☑ Yes	☐ No
All Results are less than the laboratory reporting limits.	☐ Yes	☑ No
All laboratory QA/QC requirements are acceptable.	☑ Yes	☐ No
The Vendor Laboratories have been qualified by the Analytical Laboratory	Yes	

Report Sections Included:

- ☑ Job Summary Report
- ☑ Sample Identification
- ☑ Technical Validation of Data Package
- ☑ Analytical Laboratory Certificate of Analysis
- ☐ Analytical Laboratory QC Report
- ☑ Sub-contracted Laboratory Results
- ☐ Customer Specific Data Sheets, Reports, & Documentation
- ☐ Customer Database Entries
- ☑ Chain of Custody
- ☑ Electronic Data Deliverable (EDD) Sent Separately

Reviewed By: Mary Ann Ogle Date: 2/22/2012

Certificate of Laboratory Analysis

Order # J12020079

Site: FGD Purge Eff
Sample #: 2012002683
Collection Date: 08-Feb-12 8:10 AM
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
INORGANIC IONS BY IC								
Bromide	**100**	mg/L		5	50	EPA 300.0		
MERCURY (COLD VAPOR) IN WATER								
Mercury (Hg)	**307**	ug/L		5	100	EPA 245.1	10-Feb-12 10:21	AGIBBS
TOTAL RECOVERABLE METALS BY ICP								
Boron (B)	**194**	mg/L		0.5	10	EPA 200.7	21-Feb-12 13:25	DJSULL1
Manganese (Mn)	**7.08**	mg/L		0.05	10	EPA 200.7	21-Feb-12 13:25	DJSULL1
DISSOLVED METALS BY ICP-MS								
Manganese (Mn)	**5660**	ug/L		50	50	EPA 200.8	15-Feb-12 11:24	MHH7131
Selenium (Se)	**275**	ug/L		50	50	EPA 200.8	15-Feb-12 11:24	MHH7131
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	**273**	ug/L		10	10	EPA 200.8	15-Feb-12 10:51	MHH7131
Chromium (Cr)	**299**	ug/L		10	10	EPA 200.8	15-Feb-12 10:51	MHH7131
Copper (Cu)	**160**	ug/L		10	10	EPA 200.8	15-Feb-12 10:51	MHH7131
Nickel (Ni)	**213**	ug/L		10	10	EPA 200.8	15-Feb-12 10:51	MHH7131
Selenium (Se)	**6280**	ug/L		50	50	EPA 200.8	15-Feb-12 10:51	MHH7131
Silver (Ag)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 10:51	MHH7131
Zinc (Zn)	**300**	ug/L		10	10	EPA 200.8	15-Feb-12 10:51	MHH7131
SELENIUM SPECIATION								
Vendor Parameter	**Complete**				1	V_AS&C		
TOTAL DISSOLVED SOLIDS								
TDS	**16000**	mg/L		200	1	SM2540C	09-Feb-12 15:30	TJA7067

Site: EQ TANK EFF.
Sample #: 2012002684
Collection Date: 08-Feb-12 8:10 AM
Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
MERCURY (COLD VAPOR) IN WATER								
Mercury (Hg)	**173**	ug/L		2.5	50	EPA 245.1	10-Feb-12 10:42	AGIBBS
TOTAL RECOVERABLE METALS BY ICP								
Boron (B)	**182**	mg/L		0.5	10	EPA 200.7	21-Feb-12 13:29	DJSULL1
Manganese (Mn)	**6.87**	mg/L		0.05	10	EPA 200.7	21-Feb-12 13:29	DJSULL1

Certificate of Laboratory Analysis

Order # J12020079

Site: EQ TANK EFF. **Sample #: 2012002684**
Collection Date: 08-Feb-12 8:10 AM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
DISSOLVED METALS BY ICP-MS								
Manganese (Mn)	**5200**	ug/L		50	50	EPA 200.8	15-Feb-12 11:27	MHH7131
Selenium (Se)	**173**	ug/L		10	10	EPA 200.8	15-Feb-12 11:27	MHH7131
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	**157**	ug/L		10	10	EPA 200.8	15-Feb-12 10:54	MHH7131
Chromium (Cr)	**180**	ug/L		10	10	EPA 200.8	15-Feb-12 10:54	MHH7131
Copper (Cu)	**96.9**	ug/L		10	10	EPA 200.8	15-Feb-12 10:54	MHH7131
Nickel (Ni)	**156**	ug/L		10	10	EPA 200.8	15-Feb-12 10:54	MHH7131
Selenium (Se)	**3810**	ug/L		10	10	EPA 200.8	15-Feb-12 10:54	MHH7131
Silver (Ag)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 10:54	MHH7131
Zinc (Zn)	**188**	ug/L		10	10	EPA 200.8	15-Feb-12 10:54	MHH7131

Site: BIOREACTOR 1 INF. **Sample #: 2012002685**
Collection Date: 08-Feb-12 8:15 AM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
INORGANIC IONS BY IC								
Bromide	**93**	mg/L		5	50	EPA 300.0	16-Feb-12 06:53	JAHERMA
TOTAL RECOVERABLE METALS BY ICP								
Boron (B)	**162**	mg/L		0.5	10	EPA 200.7	21-Feb-12 13:33	DJSULL1
Manganese (Mn)	**3.43**	mg/L		0.05	10	EPA 200.7	21-Feb-12 13:33	DJSULL1
DISSOLVED METALS BY ICP-MS								
Manganese (Mn)	**3410**	ug/L		10	10	EPA 200.8	15-Feb-12 11:30	MHH7131
Selenium (Se)	**118**	ug/L		10	10	EPA 200.8	15-Feb-12 11:30	MHH7131
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 10:57	MHH7131
Chromium (Cr)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 10:57	MHH7131
Copper (Cu)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 10:57	MHH7131
Nickel (Ni)	**33.1**	ug/L		10	10	EPA 200.8	15-Feb-12 10:57	MHH7131
Selenium (Se)	**119**	ug/L		10	10	EPA 200.8	15-Feb-12 10:57	MHH7131
Silver (Ag)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 10:57	MHH7131
Zinc (Zn)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 10:57	MHH7131
SELENIUM SPECIATION								
Vendor Parameter	**Complete**				1	V_AS&C		

Certificate of Laboratory Analysis

Order # J12020079

Site: BIOREACTOR 2 INF. **Sample #: 2012002686**
Collection Date: 08-Feb-12 8:20 AM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
TOTAL RECOVERABLE METALS BY ICP								
Boron (B)	**162**	mg/L		0.5	10	EPA 200.7	21-Feb-12 13:37	DJSULL1
Manganese (Mn)	**3.61**	mg/L		0.05	10	EPA 200.7	21-Feb-12 13:37	DJSULL1
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:00	MHH7131
Chromium (Cr)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:00	MHH7131
Copper (Cu)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:00	MHH7131
Nickel (Ni)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:00	MHH7131
Selenium (Se)	**24.5**	ug/L		10	10	EPA 200.8	15-Feb-12 11:00	MHH7131
Silver (Ag)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:00	MHH7131
Zinc (Zn)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:00	MHH7131

Site: BIOREACTOR 2 EFF. **Sample #: 2012002687**
Collection Date: 08-Feb-12 8:25 AM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
INORGANIC IONS BY IC								
Bromide	**89**	mg/L		5	50	EPA 300.0	16-Feb-12 07:09	JAHERMA
MERCURY (COLD VAPOR) IN WATER								
Mercury (Hg)	**< 1.00**	ug/L		1	20	EPA 245.1	10-Feb-12 10:45	AGIBBS
TOTAL RECOVERABLE METALS BY ICP								
Boron (B)	**150**	mg/L		0.5	10	EPA 200.7	21-Feb-12 13:41	DJSULL1
Manganese (Mn)	**3.56**	mg/L		0.05	10	EPA 200.7	21-Feb-12 13:41	DJSULL1
DISSOLVED METALS BY ICP-MS								
Manganese (Mn)	**3270**	ug/L		10	10	EPA 200.8	15-Feb-12 11:33	MHH7131
Selenium (Se)	**< 5.00**	ug/L		5	5	EPA 200.8	15-Feb-12 11:33	MHH7131
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:03	MHH7131
Chromium (Cr)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:03	MHH7131
Copper (Cu)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:03	MHH7131
Nickel (Ni)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:03	MHH7131
Selenium (Se)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:03	MHH7131
Silver (Ag)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:03	MHH7131
Zinc (Zn)	**< 10.0**	ug/L		10	10	EPA 200.8	15-Feb-12 11:03	MHH7131
SELENIUM SPECIATION								
Vendor Parameter	**Complete**				1	V_AS&C		

Certificate of Laboratory Analysis

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Order # J12020079

Site: FILTER BLANK — **Sample #: 2012002688**
Collection Date: 08-Feb-12 8:00 AM — Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
DISSOLVED METALS BY ICP-MS								
Manganese (Mn)	**1.36**	ug/L		1	1	EPA 200.8	15-Feb-12 11:21	MHH7131
Selenium (Se)	**1.41**	ug/L		1	1	EPA 200.8	15-Feb-12 11:21	MHH7131

Site: Trip Blank — **Sample #: 2012002689**
Collection Date: 08-Feb-12 8:00 AM — Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
TOTAL RECOVERABLE METALS BY ICP								
Boron (B)	**< 0.050**	mg/L		0.05	1	EPA 200.7	21-Feb-12 13:21	DJSULL1
Manganese (Mn)	**< 0.005**	mg/L		0.005	1	EPA 200.7	21-Feb-12 13:21	DJSULL1
TOTAL RECOVERABLE METALS BY ICP-MS								
Arsenic (As)	**< 1.00**	ug/L		1	1	EPA 200.8	15-Feb-12 10:48	MHH7131
Chromium (Cr)	**< 1.00**	ug/L		1	1	EPA 200.8	15-Feb-12 10:48	MHH7131
Copper (Cu)	**2.29**	ug/L		1	1	EPA 200.8	15-Feb-12 10:48	MHH7131
Nickel (Ni)	**< 1.00**	ug/L		1	1	EPA 200.8	15-Feb-12 10:48	MHH7131
Selenium (Se)	**< 1.00**	ug/L		1	1	EPA 200.8	15-Feb-12 10:48	MHH7131
Silver (Ag)	**1.37**	ug/L		1	1	EPA 200.8	15-Feb-12 10:48	MHH7131
Zinc (Zn)	**1.76**	ug/L		1	1	EPA 200.8	15-Feb-12 10:48	MHH7131
SELENIUM SPECIATION								
Vendor Parameter	**Complete**				1	V_AS&C		

Site: BIOREACTOR 1 INF. — **Sample #: 2012002690**
Collection Date: 08-Feb-12 1:15 PM — Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
MERCURY 1631								
Vendor Parameter	**Complete**				1	V_BRAND		

Site: HG BLANK BIOREACTOR 1 INF. — **Sample #: 2012002699**
Collection Date: 08-Feb-12 1:15 PM — Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
MERCURY 1631								
Vendor Parameter	**Complete**				1	V_BRAND		

Certificate of Laboratory Analysis

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Order # J12020079

Site: BIOREACTOR 2 INF. **Sample #: 2012002700**
Collection Date: 08-Feb-12 1:25 PM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
MERCURY 1631								
Vendor Parameter	**Complete**				1	V_BRAND		

Site: Hg Blk BioReactor 2 Inf **Sample #: 2012002701**
Collection Date: 08-Feb-12 1:25 PM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
MERCURY 1631								
Vendor Parameter	**Complete**				1	V_BRAND		

Site: BIOREACTOR 2 EFF. **Sample #: 2012002702**
Collection Date: 08-Feb-12 1:20 PM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
MERCURY 1631								
Vendor Parameter	**Complete**				1	V_BRAND		

Site: Hg Blk BioReactor 2 Eff **Sample #: 2012002703**
Collection Date: 08-Feb-12 1:20 PM Matrix: OTHER

Analyte	Result	Units	Qualifiers	RDL	DF	Method	Analysis Date/Time	Analyst
MERCURY 1631								
Vendor Parameter	**Complete**				1	V_BRAND		

APPLIED SPECIATION AND CONSULTING, LLC

18804 Northcreek Parkway Bothell, WA, 98011
Tel: (425) 483-3300 Fax: (425) 483-9818
www.appliedspeciation.com

February 21, 2012

Jay Perkins
Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd.
Huntersville, NC 28078
(704) 875-5245

Project: Belews – FGD WWTS (Bi-Monthly Wed-Sampling) (LIMS # J12020079)

Dear Mr. Perkins,

Attached is the report associated with four (4) aqueous samples submitted for selenium speciation analysis on February 9, 2012. The samples were received in a sealed cooler at -0.5°C on February 10, 2012. Selenium speciation analysis was performed via ion chromatography inductively coupled plasma kinetic energy discrimination cell mass spectrometry (IC-ICP-KED-MS). Any issues associated with the analysis are addressed in the following report.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

Russell Gerads
Vice President
Applied Speciation and Consulting, LLC

Applied Speciation and Consulting, LLC

Report prepared for:

Jay Perkins
Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd.
Huntersville, NC 28078

Project: Belews – FGD WWTS (Bi-Monthly Wed-Sampling) (LIMS # J12020079)

February 21, 2012

1. Sample Reception

Four (4) aqueous samples in 125mL HDPE bottles (provided by Applied Speciation and Consulting) were submitted for selenium speciation analysis on February 9, 2012. The samples were received on February 10, 2012 in a sealed container at -0.5°C.

The samples were received in a laminar flow clean hood, void of trace metals contamination and ultra-violet radiation, and was designated a discrete sample identifier. An aliquot of each sample was filtered (0.45µm) and each filtrate was stored in a secure, monitored cryofreezer (maintained at a temperature of -80^{o}C) until selenium speciation analysis could be performed via ion chromatography inductively coupled plasma kinetic energy discrimination mass spectrometry (IC-ICP-KED-MS).

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are monitored for contamination to account for any biases associated with the sample results.

Selenium Speciation Analysis by IC-ICP-KED-MS Prior to analysis, an aliquot of each sample was filtered with a syringe filter (0.45µm) and injected directly into a sealed autosampler vial. No further sample preparation was performed as any chemical alteration of a sample may shift the equilibrium of the system, resulting in changes in speciation ratios.

3. Sample Analysis

All sample analysis is preceded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. Calibration curves are performed at the beginning of each analytical day. All calibration curves, associated with each species of interest, are

standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases associated with the analytical platform.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimal interval of every ten analytical runs.

Selenium Speciation Analysis by IC-ICP-KED-MS Each sample for selenium speciation analysis was analyzed by ion chromatography inductively coupled plasma kinetic energy discrimination mass spectrometry (IC-ICP-KED-MS) on February 16, 2012. An aliquot of each sample is injected onto an anion exchange column and mobilized by a basic (pH > 7) gradient. The eluting selenium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (KED) containing hydrogen gas which preferentially reacts with interfering ions of the same target mass to charge ratios (m/z). A solid-state detector detects ions transmitted through the mass analyzer and the resulting current is processed by a data handling system.

Retention times for each eluting species are compared to known standards for species identification.

4. Analytical Issues

The overall analyses went well and no significant analytical issues were encountered. All quality control parameters associated with this sample were within acceptance limits.

The estimated method detection limits (eMDLs) for selenite, selenate, and selenocyanate are generated from replicate analyses of the lowest standard in the calibration curve. Not all selenium species are present in preparation blanks; therefore, eMDL calculations based on preparation blanks are artificially biased low.

The eMDL for methylseleninic acid and selenomethionine is calculated from the average eMDL of selenite, selenate, and selenocyanate. The calibration does not contain methylseleninic acid or selenomethionine due to impurities in these standards which would bias the results for other selenium species.

If you have any questions or concerns regarding this report, please feel free to contact me.

Sincerely,

Russell Gerads
Vice President
Applied Speciation and Consulting, LLC

Selenium Speciation Results for Duke Energy
Project Name: Belews - FGD WWTS (Bi-Monthly-Wed-Sampling)
Contact: Jay Perkins
LIMS #J12020079

Date: February 21, 2012
Report Generated by: Russell Gerads
Applied Speciation and Consulting, LLC

Sample Results

Sample ID	Se(IV)	Se(VI)	SeCN	MeSe(IV)	SeMe	Unknown Se Species (n)
FGD Purge Eff	124	64.0	ND (<0.86)	1.96	ND (<0.59)	0 (0)
BioReactor 1 Inf	26.0	60.6	ND (<0.21)	3.50	ND (<0.15)	0 (0)
BioReactor 2 Eff	0.42	ND (<0.12)	ND (<0.21)	ND (<0.15)	ND (<0.15)	0 (0)
Metals Trip Blk	ND (<0.022)	ND (<0.024)	ND (<0.043)	ND (<0.030)	ND (<0.030)	0 (0)

All results reflect the applied dilution and are reported in µg/L
ND = Not detected at the applied dilution
SeCN = Selenocyanate
MeSe(IV) = Methylseleninic acid
SeMe = Selenomethionine
Unknown Se Species = Total concentration of all unknown Se species observed by IC-ICP-MS
n = number of unknown Se species observed

Selenium Speciation Results for Duke Energy
Project Name: Belews - FGD WWTS (Bi-Monthly-Wed-Sampling)
Contact: Jay Perkins
LIMS #J12020079

Date: February 21, 2012
Report Generated by: Russell Gerads
Applied Speciation and Consulting, LLC

Quality Control Summary - Preparation Blank Summary

Analyte (µg/L)	PBW1	PBW2	PBW3	PBW4	Mean	StdDev	eMDL*	eMDL 10x	eMDL 50x	eMDL 200x
Se(IV)	0.010	0.017	0.010	0.011	0.012	0.003	0.002	0.022	0.11	0.43
Se(VI)	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.024	0.12	0.48
SeCN	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.043	0.21	0.86
MeSe(IV)	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.030	0.15	0.59
SeMe	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.030	0.15	0.59

eMDL = Estimated Method Detection Limit
*Please see narrative regarding eMDL calculations

Quality Control Summary - Certified Reference Materials

Analyte (µg/L)	CRM	True Value	Result	Recovery
Se(IV)	LCS	9.57	9.48	99.1
Se(VI)	LCS	9.48	9.04	95.4
SeCN	LCS	8.92	8.44	94.6
MeSe(IV)	LCS	6.47	6.07	93.8
SeMe	LCS	9.32	8.70	93.3

Selenium Speciation Results for Duke Energy
Project Name: Belews - FGD WWTS (Bi-Monthly-Wed-Sampling)
Contact: Jay Perkins
LIMS #J12020079

Date: February 21, 2012
Report Generated by: Russell Gerads
Applied Speciation and Consulting, LLC

Quality Control Summary - Matrix Duplicates

Analyte (µg/L)	Sample ID	Rep 1	Rep 2	Mean	RPD
Se(IV)	Batch QC	0.69	0.62	0.7	10.3
Se(VI)	Batch QC	ND (<0.48)	ND (<0.48)	NC	NC
SeCN	Batch QC	4.61	4.36	4.5	5.4
MeSe(IV)	Batch QC	ND (<0.59)	ND (<0.59)	NC	NC
SeMe	Batch QC	ND (<0.59)	ND (<0.59)	NC	NC

ND = Not detected at the applied dilution
NC = Value was not calculated due to one or more concentrations below the eMDL

Quality Control Summary - Matrix Spike/ Matrix Spike Duplicate

Analyte (µg/L)	Sample ID	Spike Conc	MS Result	Recovery	Spike Conc	MSD Result	Recovery	RPD
Se(IV)	Batch QC	1112	1186	106.7	1112	1185	106.6	0.1
Se(VI)	Batch QC	1009	1063	105.4	1009	1056	104.7	0.6
SeCN	Batch QC	915.0	955.7	104.0	915.0	946.6	103.0	1.0

Page 2 of 2

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Analytical Lab Page 16 of 27

Duke Energy

Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-4349

Analytical Laboratory Use Only
Order # J1202007 9
Matrix: OTHER
Samples Originating From: NC ✓ SC ___
Logged By: cpk
Date & Time: 2-9-12 0657
SAMPLE PROGRAM: Water ___ Ground ___ NPDES ___ Drinking Water ___ UST ___ RCRA Waste ___
Cooler Temp (C): <1

[19]Page 1 of 2
DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

[redacted]
AS&C
PO#133241

[1]Project Name: Belews - FGD		[2]Phone No:
[2] Client: Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson **		[4]Fax No:
[5]Business Unit:	[6]Process:	Mail Code:
[8]Oper. Unit:	[9]Res. Type:	[10]Reso. Center:

MR #

Customer to complete all appropriate non-shaded areas.

[15]Preserv.: 1=HCl, 2=H_2SO_4, 3=HNO_3, 4=Ice, 5=None

[16]Analyses Required

LAB USE ONLY [11]Lab ID	Se Speciation Bottle ID	[13]Sample Description or ID	Date	Time	Signature	[17]Comp.	[18]Grab	TDS	Hg - 245.1	Br (IC)	Metals*	Mn, Se, soluble	Se, speciation - vendor to (important to place filled bottle back into both baggies)
~~J1202007983~~		~~FGD Purge Eff~~	~~2/8~~	~~0810~~	R. Hendricks								1
84		EQ Tank Eff.	2/8	0810					1		1	1	
~~85~~		~~BioReactor 1 Inf~~	~~2/8~~	~~0815~~						1	1	1	1
86		BioReactor 2 Inf	2/8	0820							1		
~~87~~		~~BioReactor 2 Eff~~	~~2/8~~	~~0825~~									1
88		Filter Blk	2/8	0800								1	
89		Metals Trip Blk	2/8	0800							1		1

1) Relinquished By: Brett P. Hendricks	Date/Time: 2-8-12	2) Accepted By: Dan Mon	Date/Time: 2-8-12 1330
3) Relinquished By: Dan Mon 2-8-12	Date/Time: 1530	4) Accepted By: Wendy Knox	Date/Time: 2-8-12 1530
5)Relinquished By:	Date/Time:	6)Accepted By:	Date/Time:
7)Relinquished By: cpk	Date/Time: 2-9-12	8)Accepted By: Nancy Cullenen Temp -0.5c	Date/Time: 2/10/12 9:45
9)Seal/Locked By: cpk	Date/Time: 2-9-12	10) Seal/Lock Opened By	Date/Time:
11)Seal/Locked By	Date/Time:	12)Seal/Lock Opened By	Date/Time:

Comments

[22]Requested Turnaround
14 Days ___
*7 Days ___
*48 Hr ___
*Other ___
* Add. Cost Will Apply
2-16-12

February 15, 2012

Duke Energy
ATTN: Jay Perkins
Scientific Support-Laboratory
13339 Hagers Ferry Road
Huntersville NC 28078
jcperkins@duke-energy.com
labcustomer@duke-energy.com

RE: Project DUK-HV1201 Client Project: J12020079

Dear Mr. Perkins,

On February 10, 2012, Brooks Rand Labs (BRL) received three (3) wastewater samples and three (3) corresponding field blanks. Samples were logged-in for total mercury (Hg) analysis. All samples were received, prepared, analyzed, and stored according to BRL SOPs and EPA methodology.

The results were blank-corrected as described in the calculations section of the applicable SOP(s) and may be evaluated using adjusted reporting limits to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific detection limits and other details.

No qualification of the data was warranted, aside from concentration qualifiers, and all associated quality control sample results met the acceptance criteria.

BRL, an accredited laboratory, certifies the reported results of all analyses for which BRL is NELAP accredited meet all NELAP requirements. For more details, see the *Report Information* page of the report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Tiffany Stilwater
Project Manager
tiffany@brooksrand.com

Project ID: DUK-HV1201
PM: Tiffany Stilwater

Client PM: Jay Perkins
Client PO: 141391

Report Information

Laboratory Accreditation

BRL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BRL is also certified by many other states to perform environmental analyses. For a current list of our accreditations /certifications, please visit our website at <http://www.brooksrand.com/default.asp?contentID=586>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BLK	method blank	**MS**	matrix spike
BRL	Brooks Rand Labs	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
CRM	certified reference material	**RPD**	relative percent difference
D	dissolved fraction	**RSD**	relative standard deviation
DUP	duplicate	**SCV**	secondary calibration verification
ICV	initial calibration verification	**SOP**	standard operating procedure
MDL	method detection limit	**SRM**	standard reference material
MRL	method reporting limit	**T**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

B Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H Holding time and/or preservation requirements not met. Result is estimated.
J Estimated value. A full explanation is presented in the narrative.
J-M Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N Spike recovery was not within acceptance criteria. Result is estimated.
R Rejected, unusable value. A full explanation is presented in the narrative.
U Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Rand, Ltd., those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses; USEPA; July 2002. These supersede all previous qualifiers ever employed by BRL.

Project ID: DUK-HV1201
PM: Tiffany Stilwater

Client PM: Jay Perkins
Client PO: 141391

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
BioReactor 1 Inf	1206023-01	Influent	Sample	02/08/2012	02/10/2012
Hg Blk BioReactor 1 Inf	1206023-02	DIW	Field Blank	02/08/2012	02/10/2012
BioReactor 2 Inf	1206023-03	Influent	QC Sample	02/08/2012	02/10/2012
Hg Blk BioReactor 2 Inf	1206023-04	DIW	Field Blank	02/08/2012	02/10/2012
BioReactor 2 Eff	1206023-05	Effluent	Sample	02/08/2012	02/10/2012
Hg Blk BioReactor 2 Eff	1206023-06	DIW	Field Blank	02/08/2012	02/10/2012

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
Hg	Water	EPA 1631	02/10/2012	02/13/2012	B120211	1200098

Project ID: DUK-HV1201
PM: Tiffany Stilwater

Client PM: Jay Perkins
Client PO: 141391

Sample Results

Sample	Analyte	Report Matrix	Fraction	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
BioReactor 1 Inf										
1206023-01	Hg	Influent	T	229		15.3	40.8	ng/L	B120211	1200098
BioReactor 2 Eff										
1206023-05	Hg	Effluent	T	12.5		1.52	4.04	ng/L	B120211	1200098
BioReactor 2 Inf										
1206023-03	Hg	Influent	T	67.6		3.03	8.08	ng/L	B120211	1200098
Hg Blk BioReactor 1 Inf										
1206023-02	Hg	DIW	T	0.15	U	0.15	0.40	ng/L	B120211	1200098
Hg Blk BioReactor 2 Eff										
1206023-06	Hg	DIW	T	0.15	U	0.15	0.41	ng/L	B120211	1200098
Hg Blk BioReactor 2 Inf										
1206023-04	Hg	DIW	T	0.15	U	0.15	0.40	ng/L	B120211	1200098

Project ID: DUK-HV1201
PM: Tiffany Stilwater

Client PM: Jay Perkins
Client PO: 141391

Accuracy & Precision Summary

Batch: B120211
Lab Matrix: Water
Method: EPA 1631

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B120211-SRM1	**Certified Reference Material (1205004, NIST 1641d 1000x dilution)**						
	Hg		15.68	13.35	ng/L	85% 85-115	
B120211-MS1	**Matrix Spike (1206023-03)**						
	Hg	67.57	303.0	366.7	ng/L	99% 71-125	
B120211-MSD1	**Matrix Spike Duplicate (1206023-03)**						
	Hg	67.57	303.0	370.4	ng/L	100% 71-125	1% 24

Method Blanks & Reporting Limits

Batch: B120211
Matrix: Water
Method: EPA 1631
Analyte: Hg

Sample	Result	Units
B120211-BLK1	0.03	ng/L
B120211-BLK2	0.07	ng/L
B120211-BLK3	0.05	ng/L
B120211-BLK4	0.05	ng/L

Average: 0.05 **Standard Deviation:** 0.02 **MDL:** 0.15
Limit: 0.50 **Limit:** 0.10 **MRL:** 0.40

Project ID: DUK-HV1201
PM: Tiffany Stilwater

Client PM: Jay Perkins
Client PO: 141391

Instrument Calibration

Sequence: 1200098
Instrument: THG-05
Date: 02/13/2012
Analyte: Hg

Total Mercury and Mercury Speciation by CVAF
Method: EPA 163

Lab ID	True Value	Result	Units	REC & Limits	
1200098-IBL1		7.33	pg of Hg		
1200098-IBL2		6.20	pg of Hg		
1200098-IBL3		7.11	pg of Hg		
1200098-IBL4		6.03	pg of Hg		
1200098-CAL1	25.00	26.31	pg of Hg	105%	
1200098-CAL2	100.0	98.31	pg of Hg	98%	
1200098-CAL3	500.0	495.9	pg of Hg	99%	
1200098-CAL4	2500	2485	pg of Hg	99%	
1200098-CAL5	10000	9819	pg of Hg	98%	
1200098-ICV1	1568	1335	pg of Hg	85%	85-115
1200098-CCB1		8.51	pg of Hg		
1200098-CCV1	500.0	465.7	pg of Hg	93%	77-123
1200098-CCV2	500.0	459.3	pg of Hg	92%	77-123

Project ID: DUK-HV1201
PM: Tiffany Stilwater

Client PM: Jay Perkins
Client PO: 141391

Sample Containers

Lab ID: 1206023-01
Sample: BioReactor 1 Inf
Report Matrix: Influent
Sample Type: Sample
Collected: 02/08/2012
Received: 02/10/2012

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-T	500 mL	71511970 10	none	n/a		Cardboard Box

Lab ID: 1206023-02
Sample: Hg Blk BioReactor 1 Inf
Report Matrix: DIW
Sample Type: Field Blank
Collected: 02/08/2012
Received: 02/10/2012

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-T	250 mL	71470160 10	none	n/a		Cardboard Box

Lab ID: 1206023-03
Sample: BioReactor 2 Inf
Report Matrix: Influent
Sample Type: QC Sample
Collected: 02/08/2012
Received: 02/10/2012

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-T	250 mL	71470160 10	none	n/a		Cardboard Box

Lab ID: 1206023-04
Sample: Hg Blk BioReactor 2 Inf
Report Matrix: DIW
Sample Type: Field Blank
Collected: 02/08/2012
Received: 02/10/2012

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-T	250 mL	71470160 10	none	n/a		Cardboard Box

Lab ID: 1206023-05
Sample: BioReactor 2 Eff
Report Matrix: Effluent
Sample Type: Sample
Collected: 02/08/2012
Received: 02/10/2012

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-T	250 mL	71470160 10	none	n/a		Cardboard Box

Lab ID: 1206023-06
Sample: Hg Blk BioReactor 2 Eff
Report Matrix: DIW
Sample Type: Field Blank
Collected: 02/08/2012
Received: 02/10/2012

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Bottle FLPE Hg-T	250 mL	71470160 10	none	n/a		Cardboard Box

Project ID: DUK-HV1201
PM: Tiffany Stilwater

Client PM: Jay Perkins
Client PO: 141391

Shipping Containers

Cardboard Box

Received: February 10, 2012 8:45
Tracking No: 4726 7966 8183 via FedEx
Coolant Type: None
Temperature: ambient

Description: Cardboard Box
Damaged in transit? No
Returned to client? No

Custody seals present? No
Custody seals intact? No
COC present? Yes

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

1206023

Duke Energy
Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-4349

Analytical Laboratory Use Only

ORDER # J12020079 | Sample Class OTHER | Samples Originating From NC___ SC___

Logged By cpk | Date & Time 2-9-12 0657

Ve [redacted] Brooks Rand

PO PO#141391

Cooler Temp (C) 2 1

SAMPLE PROGRAM: Water ___ Ground ___ NPDES ___ Drinking Water ___ UST ___ RCRA Waste ___

[19]Page 2 of 2
DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

1)Project Name: Belews - FGD		2)Phone No:
2) Client: Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson *		4)Fax No:
5)Business Unit:	6)Process:	Mail Code:
8)Oper. Unit:	9)Res. Type:	10)Reso. Center:

[15]Preserv.: 1=HCL 2=H_2SO_4 3=HNO_3 4=Ice 5=None

MR #

Customer to complete all appropriate non-shaded areas.

LAB USE ONLY [11]Lab ID	Se Speciation Bottle ID	[13]Sample Description or ID	Date	Time	Signature	[17]Comp.	[18]Grab	[16]Analyses Required: Hg 1631 (sample 2nd week only)
20/12002683-90		* BioReactor 1 Inf	2-8-12	1315	Dave Moore		X	1
699		Hg Blk BioReactor 1 Inf		↓				1
700		BioReactor 2 Inf		1325				1
701		Hg Blk BioReactor 2 Inf		↓				1
702		BioReactor 2 Eff		1320				1
703		Hg Blk BioReactor 2 Eff	↓	↓	↓		↓	1

Use the Bioreactor 2 Inf or EFF sample as the MS/MSD

1) Relinquished By: Dave Moore	Date/Time: 2-8-12 1530	2) Accepted By: Cindy Knox	Date/Time: 2-8-12 1530
3) Relinquished By:	Date/Time:	4) Accepted By:	Date/Time: 2/10/12 0845
5)Relinquished By:	Date/Time:	6)Accepted By:	Date/Time:
7)Relinquished By: cpk	Date/Time: 2-9-12	8)Accepted By:	Date/Time:
9)Seal/Locked By: cpk	Date/Time: 2-9-12	10) Seal/Lock Opened By	Date/Time:
11)Seal/Locked By	Date/Time:	12)Seal/Lock Opened By	Date/Time:

[22]Requested Turnaround
14 Days ___
*7 Days ___
*48 Hr ___
*Other ___
* Add. Cost Will Apply
2-16-12

Comments
* Metals=As, Ag, B, Cu, Cr, Ni, Se, Zn *thomas.d.johnson@siemens.com

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-4349

Analytical Laboratory Use Only

Order # J1202079 | Matrix: OTHER | Samples Originating From: NC ✓ SC ___
Logged By: cpb | Date & Time: 2-9-12 0657
SAMPLE PROGRAM: Ground Water ___ NPDES ___ Drinking Water ___ UST ___ RCRA Waste ___
Cooler Temp (C): <1

[19]Page 1 of 2
DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

AS&C
PO#133241

Customer must Complete

1)Project Name: Belews - FGD WWTS (Bi-Monthly-Wed-Sampling)		2)Phone No:
2) Client: Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson **		4)Fax No:
5)Business Unit:	6)Process:	Mail Code:
8)Oper. Unit:	9)Res. Type:	10)Reso. Center:

MR #

Customer to complete all appropriate non-shaded areas.

Sampling conducted: 2nd and 4th Wednesday

[15]Preserv.: 1=HCl 2=H_2SO_4 3=HNO_3 4=Ice 5=None

[16]Analyses Required

LAB USE ONLY [11]Lab ID	Se Speciation Bottle ID	[13]Sample Description or ID	Date	Time	Signature	[17]Comp.	[18]Grab	TDS	Hg - 245.1	Br (IC)	Metals*	Mn, Se, soluble	Se, speciation - vendor to AS&C (Important to place filled bottle back into both baggies)
								4	3,4		4	3,4	4
20120026 83		FGD Purge Eff	2/8	0810	R. Hendricks			1	1	1	1	1	1
84		EQ Tank Eff.	2/8	0810					1		1	1	
85		BioReactor 1 Inf	2/8	0815						1	1	1	1
86		BioReactor 2 Inf	2/8	0820							1		
87		BioReactor 2 Eff	2/8	0825					1	1	1	1	1
88		Filter Blk	2/8	0800								1	
89		Metals Trip Blk	2/8	0800							1		1

Customer to complete appropriate columns to right

Filtering of Se is performed in the field...

Customer to sign & date below - fill out from left to right.

1) Relinquished By: Robert P. Hendricks	Date/Time: 2-8-12	2) Accepted By: Dan Mon	Date/Time: 2-8-12 1310
3) Relinquished By: Dan Mon 2-8-12	Date/Time: 1530	4) Accepted By: Cindy Knox	Date/Time: 2-8-12 1530
5)Relinquished By	Date/Time	6)Accepted By:	Date/Time
7)Relinquished By: cpb	Date/Time: 2-9-12	8)Accepted By:	Date/Time
9)Seal/Locked By: cpb	Date/Time: 2-9-12	10) Seal/Lock Opened By	Date/Time
11)Seal/Locked By	Date/Time	12)Seal/Lock Opened By	Date/Time

Comments: * Metals=TRM/ICP= B, Mn TRM/IMS=As, Ag, Cr, Cu, Ni, Se, Zn thomas.d.johnson@[illegible]

Customer, IMPORTANT! Please indicate desired turnaround.

[22]Requested Turnaround
14 Days ___
*7 Days ___
*48 Hr ___
*Other ___
* Add. Cost Will Apply
2-16-12

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST FORM

Duke Energy Analytical Laboratory
Mail Code MGO3A2 (Building 7405)
13339 Hagers Ferry Rd
Huntersville, N. C. 28078
(704) 875-5245
Fax: (704) 875-4349

Analytical Laboratory Use Only

ORDER # J12020079 | Sample Class OTHER | Samples Originating From | NC___ SC___

Logged By cpk | Date & Time 2-9-12 0657

SAMPLE PROGRAM: Ground Water ___ NPDES ___ Drinking Water ___ UST ___ RCRA Waste ___

Cooler Temp (C) 2

Brooks Rand
PO#141391

[19]Page 2 of 2
DISTRIBUTION
ORIGINAL to LAB,
COPY to CLIENT

Customer must Complete

[1]Project Name: Belews - FGD WWTS (2011, Bi-Weekly Sampling)		[2]Phone No:
[2] Client: Bill Kennedy, Melonie Martin, Wayne Chapman, Tom Johnson *		[4]Fax No:
[5]Business Unit:	[6]Process:	Mail Code:
[8]Oper. Unit:	[9]Res. Type:	[10]Reso. Center:

[19]Preserv.: 1=HCL 2=H_2SO_4 3=HNO_3 4=Ice 5=None

MR #

Customer to complete all appropriate non-shaded areas.

Sampling conducted: 2nd Wednesday each month

LAB USE ONLY [11]Lab ID	Se Speciation Bottle ID	[13]Sample Description or ID	Date	Time	Signature	[16]Analyses Required [17]Comp.	[18]Grab	Hg 1631 (sample 2nd week only)
20120026830		BioReactor 1 Inf	2-8-12	1315	Dave Morris		X	1
699		Hg Blk BioReactor 1 Inf		↓				1
700		BioReactor 2 Inf		1325				1
701		Hg Blk BioReactor 2 Inf		↓				1
702		BioReactor 2 Eff		1320				1
703		Hg Blk BioReactor 2 Eff	↓	↓	↓		↓	1

Use the Bioreactor 2 Inf or EFF sample as the MS/MSD

Customer to complete appropriate columns to right

Customer to sign & date below - fill out from left to right.

1) Relinquished By: Dave Morris	Date/Time: 2-8-12 1530	2) Accepted By: Cindy Knox	Date/Time: 2-8-12 1530
3) Relinquished By:	Date/Time:	4) Accepted By:	Date/Time:
5)Relinquished By:	Date/Time:	6)Accepted By:	Date/Time:
7)Relinquished By: cpk	Date/Time: 2-9-12	8)Accepted By:	Date/Time:
9)Seal/Locked By: cpk	Date/Time: 2-9-12	10) Seal/Lock Opened By	Date/Time:
11)Seal/Locked By:	Date/Time:	12)Seal/Lock Opened By	Date/Time:

Comments

* Metals=As, Ag, B, Cu, Cr, Ni, Se, Zn *thomas.d.johnson@siemens.com

Customer, IMPORTANT!
Please indicate desired turnaround.

[22]Requested Turnaround

14 Days ___
*7 Days ___
*48 Hr ___
*Other ___
* Add. Cost Will Apply

2-16-12